Remarks/Arguments

Claims 1-25 have been amended. New claims 26-31 have been added. Upon entry of this amendment, claims 1-31 will be pending in the present application.

Claims 1-4, 8, 11, and 21-23 has been amended. Support for the amendments to the claims can be found, for example, in Figs. 10A-10B and Figs. 10C-10D, as well as the accompanying description thereof. Claim 20 has been amended based on Figs. 10P-10Q and the accompanying description thereof and claims 24 and 25 have been amended based on Figs. 10L-10O, as well as the accompanying description thereof.

Claims 26-28 are based, in part, on the language of claim 1 and thus, to this extent, claims 26-28 find support at the same locations in the specification and drawings as claim 1. Support for the recitations in claim 26 requiring that the computer includes an active configuration of the motherboard hardware and the recitations in claim 28 that the internal firewall configuration is controlled by a network administrator in a local network is found in Figs. 10N-10O and the accompanying description.

Claims 29-31 are based, in part, on the language of claim 1 and thus, to this extent, claims 29-31 find support at the same locations in the specification and drawings as claim 1. Support for the microchip including an active configuration of a circuit integrated into the microchip and is found in Figs. 10P-10Q and the accompanying description. Basis for the recitations in claim 31 that the internal firewall configuration is controlled by a network administrator in a local network is found in Figs. 10L-10O and the accompanying description.

Claims 1-4, 7-21 and 24-25 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Shaw et al. (U.S. Patent no. 5,754,766) in view of Force, G ("Portable data encryption approaches" - retrieved from IEEE), hereinafter referred to as Shaw and Force,

respectively. This rejection, at least insofar as it applies to claims 1 and 3-25, as amended, is traversed.

The Examiner takes the position that Shaw discloses all of the elements of previous claim 1 except for the microchip including the firewall. The Examiner concedes that Shaw fails to disclose a microchip including a firewall configured to permit access by at least one other personal computer through the network to at least one processing unit to execute a shared computer processing operation initiated by the at least one other personal computer. See page 4 of the Office Action. The Examiner takes the position that it would have been obvious to modify the personal computer of Shaw in view of Force to arrive at the subject matter of previous claim 1 of the present application.

Specifically, the Examiner takes the position that, "Force discloses a microchip, namely the security processing unit (SPU), employed for network security (*The PersonaCard 100 Family*; page 417). Force further discloses the microchip including a firewall (i.e. silicon firewall) configured to permit access by the at least one other personal computer through the network to the at least one processing unit to execute the shared computer processing operation initiated by the at least one other personal computer (*The PersonaCard 100 Family*; page 417)." The Examiner takes the position that a skilled person would modify the personal computer of Shaw so as to include an embedded firewall to protect it from electrical and physical attacks citing (*The PersonaCard 100 Family*; page 417).

Claim 1, as amended, requires a personal computer including a microchip including an internal firewall that is configured with hardware to make the master control unit of the microprocessor inaccessible from the network including the Internet when the personal computer is connected to the network including the Internet. The Examiner concedes that such a feature is

not disclosed in Shaw but instead relies on the *PersonaCards 100* of Force. Force discloses

PersonaCards 100 which are described as "personal, portable 'tokens' implemented in the PC-

Card format." The *PersonaCards 100* of Force, however, are clearly not part of a personal

computer. In fact, Force states that "because the private keys are securely embedded in the

Personacard token, **security is independent of the computer and network system being used**"

(end of page 413 of Force). Moreover, Force states "in the PersonaCard system, the private keys

are … kept in the user's possession", in contrast to "crytographic keys and confidential data

stored in a desktop or portable computer that is left unattended" (page 414 of Force). Even when

physically connected to the external PC-Card reader slot of the computer, the PersonaCard token

only provides an <u>external</u> firewall, not an <u>internal</u> firewall that is configured with hardware to

make the master control unit of the microprocessor inaccessible from the network including the

Internet when the personal computer is connected to the network including the Internet, as

recited in independent claim 1.

Thus, one of ordinary skill in the art starting from Shaw would not provide hardware in

the personal computer based on Force since Force teaches that it is desirable to provide the

security on an external card which can be separated from the computer when the computer is

unattended thereby further ensuring the security of the cryptographic keys contained in the card.

Accordingly, one of ordinary skill in the art combining the teachings of Shaw and Force would

not arrive at the present invention as claimed in claim 1.

In addition, claim 1 has been amended to further recite that the internal firewall is further

configured with hardware to make at least one of the processing units of the microprocessor

accessible for an operation with another computer in the network including the Internet when the

personal computer is connected to the network including the Internet. The <u>external</u> PersonaCard

firewall as disclosed by Force is not capable of making a master control unit of the microprocessor inaccessible from the network and making at least one of the processing units of the microprocessor accessible, as now recited in claim 1. Rather, the PersonaCard described in Force can only deny or allow access to the entire computer.

Accordingly, for at least the foregoing reasons, claim 1 is considered to be patentable over a combination of Shaw and Force. Claims 3-4, 7-21 and 24-25 all depend from claim 1 and thus are considered patentable over a combination of Shaw and Force for at least the same reasons as given above with respect to claim 1. Favorable consideration and withdrawal of the rejection of claims 1, 3-4, 7-21 and 24-25 is requested for these reasons.

Claims 5-6 have been rejected over a combination of Shaw and Force, as applied to claim 1, and further in view of Romig et al. "High Performance Microsystem Packaging: A Perspective," *Microelectron Rel.*, vol. 37, pp. 1771-1781, Oct./Nov. 1997 (hereinafter referred to as "Romig"). It is noted that the applicant does not concede that Romig is prior art against the present application.

The Examiner relies on Romig as disclosing that the configuration of a personal computer can be provided by the use of field-programmable gate arrays (FPGA's). However, Romig does not cure the deficiencies of the primary references to Shaw and Force as set forth above with respect to claim 1. Thus, since claims 5-6 depend from claim 1, and Romig does not cure the deficiencies of the primary references cited against claim 1, claims 5-6 are considered to be patentable for at least the same reasons as given above with respect to claim 1. Withdrawal of the rejection of claims 5-6 is requested.

Claims 22 and 23 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Shaw and Force as applied to claim 1 and further in view of Chin et al. (US Patent 5,497,465).

The limitations of prior claims 22-23 have been incorporated in amended claim 21 and thus this rejection will be addressed in the context of amended claim 21.

The Examiner relies on Chin et al. as disclosing a parallel processing system which employs a processing chip and wherein the personal computer includes at least sixteen said processors. However, Chin et al. does not cure the deficiencies of the primary references to Shaw and Force as set forth above with respect to claim 1. Thus, since claim 21 depend from claim 1, and Chin et al. does not cure the deficiencies of the primary references cited against claim 1, amended claim 21 is considered to be patentable for at least the same reasons as given above with respect to claim 1.

It should be noted that, in the amended claims, the term "a" should be interpreted as "at least one" because, for example, if you have two processing units, then you have one (or "a") processing unit. Thus, for example, "a" processing unit should be interpreted as "at least one" processing unit.

New claims 26-31 are allowable for similar reasons to those set forth above with respect to independent claim 1. For at least these reasons, Applicant requests that claims 26-31 be allowed.
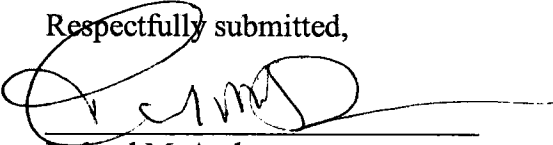
Favorable consideration and issuance of a Notice of Allowance is requested. Should there remain any outstanding issues requiring resolution prior to issuance of a Notice of Allowance, the Applicant requests an interview with the Examiner prior to issuance of a further communication on the merits and thus the Examiner is requested to telephone the undersigned to schedule such an interview.

Please charge any shortage in the fees or credit any overpayment to Deposit Account No.

06-0916.

Respectfully submitted,

Date: September 28, 2009

Roland McAndrews
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